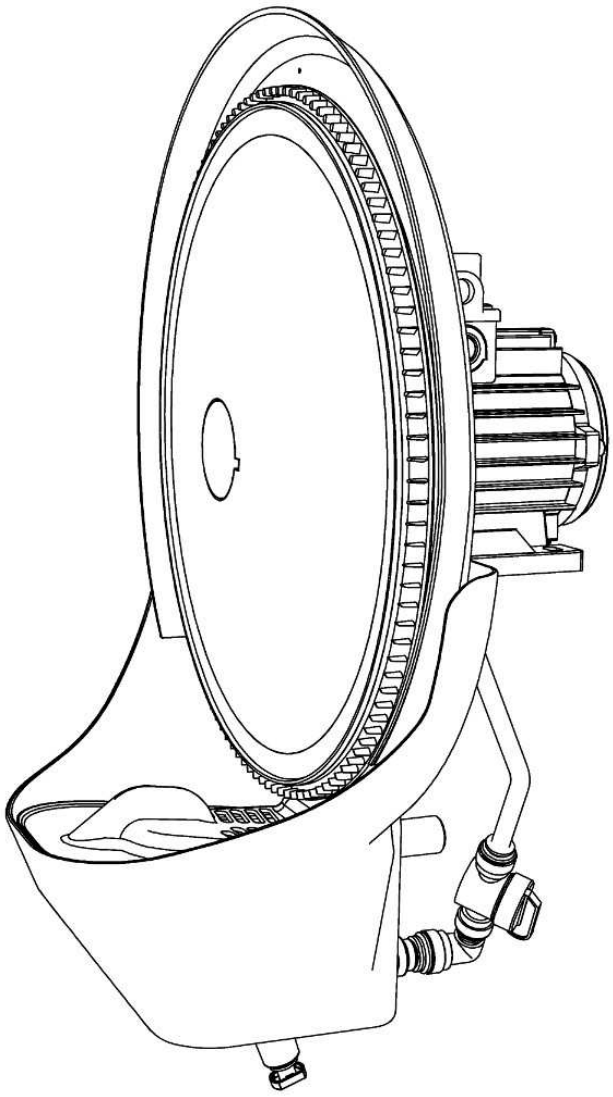
FRANCO

INSTRUCTION MANUAL FOR USE AND MAINTENANCE

UCP

CENTRIFUGAL HUMIDIFIER



CE

TRANSLATED VERSION FROM ITALIAN TO

ENGLISH

Before installing or running the unit,
it is obligatory to carefully read and consult this manual.

Manual version: 02-000/2010

Franco srl – Via Nazionale, 80 12010 Cervasca (CN), Italy

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1 - INTRODUCTION

1.1 General warnings

This device should be used only for the functions for which it was intended "Adiabatic Cooler – Humidifier". Any other use is to be considered improper and dangerous. Franco srl cannot be held liable for any damages caused by improper, incorrect or unreasonable use, or if the device is used in systems that do not comply with safety regulations.

- Check the integrity of the device at the opening of the package, paying particular attention to the presence of damages or deformations of the plastic parts that can lead to breakage and / or malfunction during use. In such cases do not connect the machine to the mains. Carry out these checks before each use.

- Before connecting the unit, make sure that the data shown on the device's plate matches that of your electricity distribution network. The data label is located on the side of the device (par.1.9).

- Respect the safety standards set for the electrical equipment and in particular:
  - Follow the installation and operation instructions concerning the use of the equipment.
  - Do not place objects on the humidifier.
  - Avoid children from using the device, and / or unable subjects without proper supervision.
  - Do not touch the humidifier during operation or until the complete stop of the disk.
  - Never place water or any other liquids into the device. In the scenario of the device becoming wet, immediately turn off the electricity by lowering the switch on the electrical panel of your system and disconnect the power before touching the device.
  - Do not insert objects inside the tank as the device may be damaged irreparably.
  - Do not use accessories, spare parts and / or components that are not provided or supplied by the manufacturer.
  - Avoid touching the appliance with wet and / or humid hands.
  - Do not pull the power cord nor expose it to risk of severing.
  - Do not expose the unit to weather (rain, sun, etc...).
  - In case of failure or malfunction, switch off immediately and disconnect the power. Do not try to open or tamper the device: contact the technical service offered by Franco srl.
  - Do not try to fill and / or empty the tank during operation.

1.2 Instructions for proper disposal of the product

Under the European Directive 2002/96/EC.
At the end of its useful life the product should not be disposed of as waste.
The device can be taken to special recycling centers provided by local authorities, or at retailers that provide this service. Disposing the product in separate parts avoids possible negative consequence to the environment and to human health, which would both be the result of an inappropriate disposal, and allows the retrieval of materials so that significant savings in energy and resources would be reached. As a reminder of the obligation to dispose electrical equipment separately, the product is marked with the crossed mobile waste container.

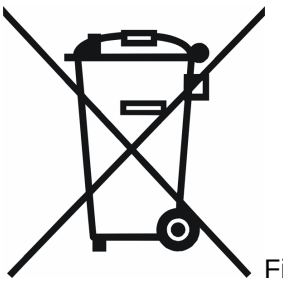


Fig. 1.1

1.3 Covenants used throughout this manual

The Manual is divided into autonomous chapters, each of which is addressed to a specific operator's figure (installer, operator and maintainer), for which the skills needed to operate the machine safely have been defined.
The sequence of chapters follows the temporal logic life of the machine.
To facilitate the immediate comprehension of the text, throughout the manual are used terms, abbreviations and pictograms, whose meaning is shown below.
The Instruction Manual consists of a cover, an index and a series of chapters (sections).
The home page lists the identification data of the machine and model, the revision of the manual instructions, and finally, a picture of the machine described, drawn in order to facilitate the reader in identifying the machine and its use.

ABBREVIAZIONI
Ch. = Chapter
Par. = Paragraph
P. = Page
Fig. = Figure
Tab. = Table

UNITS OF MEASURE
The units of measure used in this manual are those provided by the International System (SI).

1.4 Conservation of the instruction manual

The instruction manual should be carefully stored and must follow and match the device in all the cases of change of ownership incurred during the life span of the machine itself.
The conservation should be done by handling the manual with care, with clean hands and on clean surfaces. Parts must not be removed, torn or arbitrarily modified.
The manual must be stored in a secure environment, protected from moisture and heat, and near the referring device. The manufacturer, if requested by the User, may provide additional copies of the instruction manual of the machine.
The User can request additional copies of the manual by writing to **customer@francosrl.com**.

METHODOLOGY FOR UPDATING THE MANUAL

The Manufacturer reserves the right to modify the design or specifications of the machine as part of its policy of improving and enabling them to comply with the statutory or other requirements or standards applicable in any territory in which goods are sold, without notifying the Customer and without updating the manuals given to the user. Moreover, in case of changes (previously agreed between the Customer and the manufacturer) to the machine installed, which signifies the modification of one or more chapters of the Handbook of Instructions, the manufacturer will be responsible for sending the modified chapters affected by the structural change (including the new model of revision) to the User.
The User is responsible, following the directions accompanying the updated documentation, for replacing all the copies owned, the old chapters with the new chapters, the home page, and the index with the copy updated to the new revision level.

The manufacturer shall be responsible for the descriptions included in this manual; in case of an inconsistency being detected in a translated version of the manual (English version), the reader should refer back to the original Italian version of the handbook and, eventually, contact the sales department, who will make necessary changes.

1.5 Recipients

The manual is addressed to: the installer, the operator, and the qualified personnel entitled to the maintenance of the device.

EXPOSED PERSON:	refers to any person exposed, wholly or partially, to a danger zone;
OPERATOR:	refers to those persons responsible for installing, operating, regulating, clearing, repairing and moving the machine, and also performing the maintenance of the device;
QUALIFIED PERSONNEL QUALIFIED OPERATOR:	refers to the persons who have completed courses of specialization and training, and that have acquired experience in: installing, starting, operating, maintaining, repairing and transporting the device, or similar ones.

The machine is intended for industrial use (professional and not widespread) for which qualified operators are needed, in particular, workers that:

- Have reached the age of majority;
- Are physically and mentally appropriate to perform works that include technical difficulties;
- Have been properly educated on the use and maintenance of the machinery;
- Have been considered suitable to undertake the assigned job by their employer;
- Can understand and interpret the operator's manual and the safety requirements;
- Know the emergency procedures and their implementation;
- Posses the ability to operate the specific type of equipment;
- Are familiar with the specific applicable rules;
- Have understood the operating procedures defined by the manufacturer of the machine.

1.6 Glossary and pictographs

In this section we list the non common terms included in the manual. The following also explains the abbreviations used and the meaning of the pictograms in relation to the qualification of the operator and the state of the machine; their use can provide quick and unique information, necessary for the proper use of the machine under safety conditions.

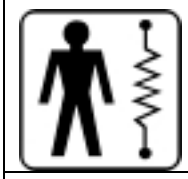
GLOSSARY (Att. I p. 1.1.1 Dir. 2006/42/CE)

HAZARD	A potential source of injury or damage to personal health;
DANGER ZONE	All areas within and/or around the machinery in which the presence of a person constitutes a risk to the health and safety of himself/herself;
EXPOSED PERSON	Any person that finds himself/herself entirely or partially in a hazardous area;
OPERATOR	The person responsible for installing, operating, regulating, clearing, repairing and moving the machine, and also performing the maintenance of the machinery;
RISK	The combination of probability and severity of an injury or harm to health that can arise in a hazardous situation;
GUARD	The part of the machinery used specifically to provide protection by means of a physical barrier;
PROTECTION DEVICE	The device (other than a shelter) that reduces (alone or in conjunction with a shelter) the risk of an operation;
INTENDED USE	Use of the machinery according to the information provided in the instruction manual;
REASONABLY FORESEEABLE MISURE	Use of the machinery in an indifferent manner from that stated in the instruction manual, which may result from a foreseeable human behavior.

OTHER DEFINITIONS:

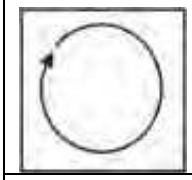
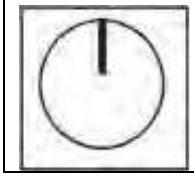
HUMAN-MACHINE INTERACTION:	Any situation in which an operator interacts with the machine in any of the operational phases at any time of the life of the machine itself;
OPERATOR'S QUALIFICATION:	Minimum level of competence that an operator must have in order to perform the described operation;
NUMBER OF OPERATORS:	The appropriate number of operators needed to optimally perform the described operation, it is derived from an accurate analysis made by the manufacture, and for which the use of a different number of operators may prevent the occurrence of the expected result or endanger the safety of the personnel involved;
STATE OF THE MACHINE:	The state of the machine includes the operating mode, for example: running in automatic mode, maintained action control (jog), shutdown, etc… the safety conditions on the machine such as included protectors, excluded protectors, emergency shutdown, isolation from energy sources, etc…
RESIDUAL RISK:	Risks that remain, despite of the protective measures incorporated in the design of the machine, the complementary protections, and the additional protective measures.
SAFETY COMPONENT:	Component: - designed to fulfill a safety function; - the failure and/or malfunctioning of which endangers the safety of persons (such as a lifter; a fixed, moving or adjustable protector; an electrical, electronic, optical, pneumatic or hydraulic device that interlock a protector; etc…).

PICTOGRAPHS CONCERNING THE OPERATOR'S QUALIFICATION

Symbol	Description
	Generic laborer: operator lacking of specific competences, capable of performing only simple tasks under the control of qualified technicians.
	Lifting and handling vehicles driver: operator qualified for the use of vehicles used in lifting and handling materials and machines (carefully following the manufacturer's instructions), in accordance with the user's country's laws.
	Mechanic maintainer: qualified technician, able to operate the machine under normal conditions, to run it with the maintained action control (JOG) with disabled protections, and to intervene on the mechanical parts in order to make the necessary adjustments, maintenances and repairs. Typically this operator is not qualified to work on electrical systems while the device is connected to the mains.
	Electrical maintainer: qualified technician, able to operate the machine under normal conditions, to run it with the maintained action control (JOG) with disabled protections, and enabled to any kind of operation of electrical adjustment, maintenance and repair. This operator is qualified to work on electrical systems while the device is connected to the mains.
	Manufacturer's technician: qualified technician offered by the manufacturer to carry out complex or particular operations or, in any other case agreed with the user. The skills are, as contingently appropriated, mechanical and/or electrical and/or electronic and/or concerning software.

PICTOGRAPHS CONCERNING THE STATE OF THE DEVICE

The pictographs contained in a square/rectangle provide information.

Symbol	State of the device
	Device OFF: with electric and pneumatic power disconnected.
	Machine in motion: with automatic function, movable protections closed and relative interlocking devices activated, and fixed protections closed.
	Device ON: in standby and ready to start by functional consent activation (eg. switchboard consent), movable protections closed with relative safety device included, and fixed protections closed.

PICTOGRAPHS CONCERNING SAFETY

The pictograms contained in a triangle indicate DANGER.
The pictograms contained in a circle impose PROHIBITION / OBLIGATION.

Pictograph	Denomination
	Hazardous voltage.
	Entanglement.
	Dragging.
	General danger.
	Do not remove safety devices.
	Prohibition of cleaning, oiling, greasing, repairing or adjusting by hand when the device is in motion.
	Duty to remove power before starting works or repairs.
	Protective gloves required.
	Safety footwear required.
	Safety helmet required.

1.7 Applications

In the industrial field, the machine is installed in places where it is necessary to maintain a certain humidity level, for example in fruits and vegetable refrigerating rooms, in aging warehouses, in the paper and tobacco industries, and in the textile companies.

In agriculture the machine is used to humidify greenhouses and mushroom farms, and for disinfectant treatments.

In the animal husbandry the machine is used to cool or nebulize in disinfectant environment or other solutions.

The materials used in building the machine ensure reliability and durability in time.
The arts of the humidifier are made in PA PC and ABS, the screws are stainless steel made.
The use of materials that do not suffer from the corrosive action of water and acids makes the UCP a machine capable of working in almost all the environments.

The UCP combines the power of the humidification, the ease of installation, and, by operating without nozzles is not subject to clogging by impurities and limestone.
The required water pressure is that of the water supply (between 2 and 6 atm).

This device should be used only for the functions for which it was intended and designed: "Adiabatic Cooler – Humidifier".

Any other use is to be considered improper and dangerous.

CE

1.8 Versions

The adiabatic cooler / humidifier UCP is available in the following versions:

1809001 Version UCP-1 230V 50Hz Single phase
1809002 Version UCP-1 230V 60Hz Single phase
1809003 Version UCP-3 400V 50Hz Three phases + neutral
1809004 Version UCP-3 400V 60Hz Three phases + neutral

1.9 Identification and data label of the unit

Each machine is identified by the CE plate on which, indelibly set, is reference data of the device itself. In any communication, either with the manufacturer or with the customer service, always cite these references.

Fig.1.2

The label plate positioning may vary from one device to another.

1.10 Description of the parts

Constituent parts of the centrifugal atomizer

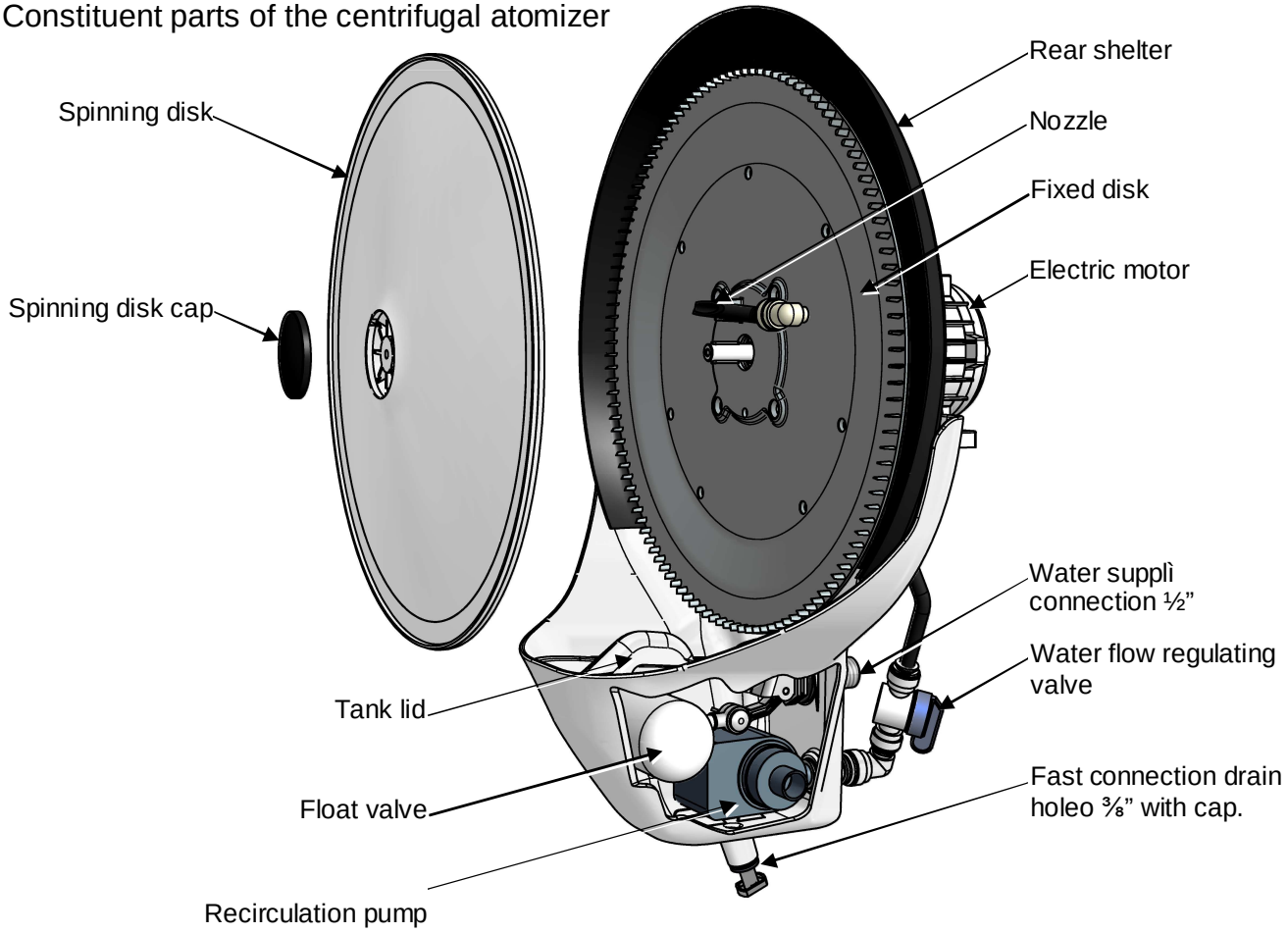


fig.1.3

1.11 Transport and handling

The machine has been properly packaged before being put into strong carton boxes.
Prevent damages to the components of the device by taking care when opening the package.
Verify the integrity of the machine by controlling that there are no visible damaged parts.
Do not dispose the packaging elements in the environment; they must be placed in proper collection points.

The UCP can be lifted and hung by using the proper brackets.

WARNING!
Before handling the device:

a. stop the machine,
b. disconnect the electricity supply,
c. interrupt the water supply.

To lift the machine, use a suitable lifting device (consult the weights table).
Lift the machine slowly, being careful not to drop it and move the straps depending on the centre of mass.

1.12 Warranty

This device is guaranteed for 12 months from the date of manufacture for all failures attributed to a proven manufacturing or material defect.
All the parts damaged by transport, improper maintenance, negligence, inability to use, improper use, tampering by unauthorized personnel and by any other cause not dependent from the company Franco s.r.l. from Cervasca (CN), Italy. During the warranty period, the company Franco s.r.l. commits itself to replace or repair free of charge those parts which result faulty from the origin.
The intervention must be made at Franco s.r.l. with transport charged to the user.

1.13 Manufacturer's identification data

Manufacturer
FRANCO S.r.l.

Registered office – Administrative headquarters
VIA NAZIONALE, 80 - 12010 CERVASCA (CN) - ITALY

Contacts
Tel.: (0039) 0171 - 61.16.63
Fax: (0039) 0171 - 61.23.37
Email: info@francosrl.com
Web: www.francosrl.com

1.14 Statements

The machine is built in accordance with the EC directives that are relevant and applicable at the time of the market entry of the machine itself.
The machine is not among those mentioned in the Att. IV of the Directive 2006/42/CE.

1.15 Declaration of incorporation

(Att. IIb DIR. 2006/42/CE)

THE MANUFACTURER

FRANCO S.r.l.
Company

Via Nazionale, 80	**12010**	**CN**
Address	*Postal code*	*Province*

Cervasca	**Italy**
City	*Country*

DECLARES THAT THE PARTLY COMPLETE MACHINE

Cooler / Humidifier	**UCP1 / UCP3**
Description	*Model*

1809001 / 1809002 / 1809003 / 1809004	**2010**
Series/Registration number	*Year of construction.*

UCP Cooler / Humidifier
Commercial denomination

Humidification and/or cooling in combination of dynamic ventilation systems (air flow >1m/s)
Intended use

Meets the following essential requirements:

RESS from 1.1 to 1.7

Complies with the EU directives:

Directive 2006/42/CE - Directive 2006/95/CE - Directive 2004/108/CE

The relevant technical documentation has been compiled in accordance with the annex VII B of machinery directive. *All relevant information about the partly completed machinery will be provided on a reasoned request by the appropriate national authority to its authorized representative.*

IT IS NOT ALLOWED
to put our products into operation until the machine into it is to be incorporated or of which it is to be a part has been found and declared in conformity with the provisions of legislation, i.e. as a whole, including the product subject of this declaration.

AND AUTHORIZES

Marco Fantino
Nominative

Via Nazionale 80	**12010**	**CN**
Address	*Postal code*	*Province*

Cervasca	**Italia**
City	*Country*

TO COMPILE THE TECHNICAL FILE ON HIS BEHALF

Place and date of the document	**The manufacturer**
Cervasca, 10/05/2010	
	Function **Administrator**

D.I.: DI N-001/180001

2 - INSTALLATION

2.1 Before installing

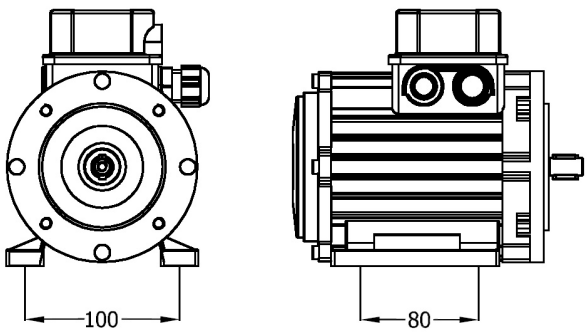
In order to start the humidifier / cooler UCP, the following conditions are required:
• connection to the electric power supply with voltage and frequency suitable for the machine and with grounding and safety devices;
• connection to water supply (pressure required: between 2 and 6 atm);
• a dynamic ventilation system (air flow >1 m/s)
• where expected: water drain connection.

The installation must meet the safety requirements provided by local regulation in force.

Make sure that all the connections necessary to operate the equipment have been properly prepared.

2.2 Positioning

The UCP humidifier must be installed either in front of a stirring air fan or as a part of a dynamic ventilation system
The humidifier / cooler UCP must be installed horizontally, hanging off the ground, with the non-atomized water tank siding down.
Use the proper holes at the base of the motor for hanging the machine holding it in the correct operating position with an appropriate fixing system avoiding vibration (the distance between holes is shown in Figure 2.1; use vibrations reducer devices);



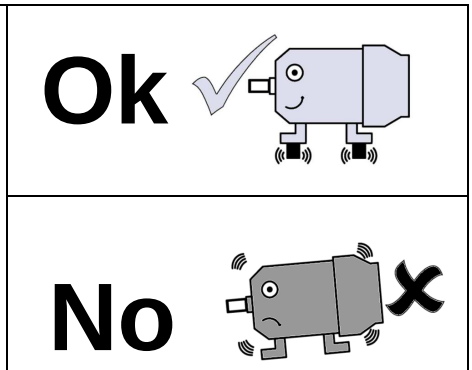


Fig. 2.1 Posizione fori per fissaggio

The machine must be installed maintaining a slight upward inclination.
The positioning of the UCP must be done by maintaining the minimum recommended distance that allows the correct operation of the machine and to perform maintenance when needed.
Choose, depending on the type on installation adopted, the most suitable position for the humidification and the cooling of the environment.

These humidifiers could be installed in air treatment units or inside canalizations for air distribution.
Is necessary to predispose a drain system for non-atomized water.
It's almost necessary, in order to maximize the fog quality, to adopt a drop separator (see fig. 2.2).

When the humidifier is used in combination with a fan; in order to prevent fog condensation on walls, maintain a minimum distance of 1m from the ceiling and the walls, while, for what concerns the front wall, the distance will have to be calculated based on the fan model chosen and the amount of water atomized.

The installment of the machine must meet the safety distance and protections in accordance with the norm DIN EN 294 – 4, 4.1, 4.2. The machine must be placed at least at 2.5 meters above the ground level (if used without protections.

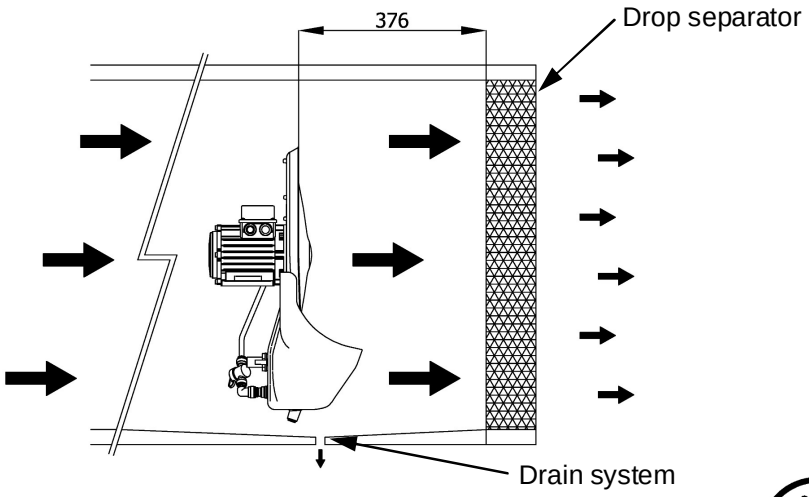


Fig. 2.2 - A.T.U. section with UCP

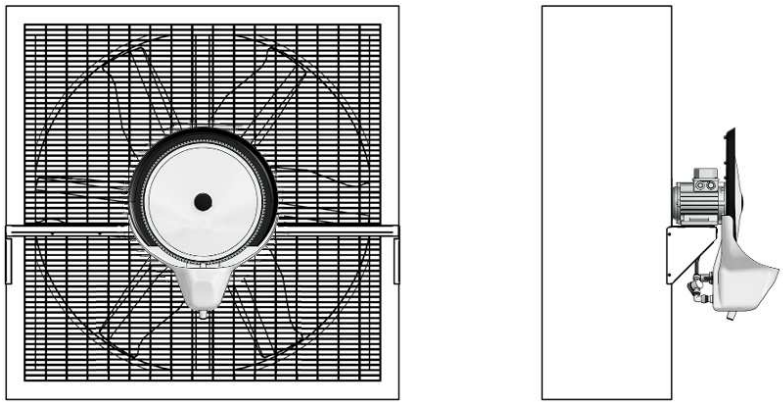


Fig. 2.3 – fan installation example

2.3 Electrical connection

The installation involves the use of a humidistat or a thermostat ON/OFF controlling the power of the machine; it is still possible to use, alternatively, a switch ON/OFF, in this case the start and stop of the machine must be done manually.
The choice, however, does not affect the installation procedure described below.

- Electrical connections must be undertaken by specialized, experienced and trained technicians, in accordance with the current legislation.
- Ensure that the electricity supply specifications correspond to those indicated in the in this manual.
- It is obligatory that the device is grounded using an efficient ground line.

The installation must foresee a device enabled to disconnect the machine from the electric supply, furthermore, a safety fuse of 2.5 A (delayed motor starting type) must be installed.

2.4 Hydraulic connection

The installation of the humidifier foresee the connection to the piping lines of water supply and drainage at the proper points (Fig. 1.3 – Water supply 1/2" tube - Exhaust hole with fast connection ⅜").
The pipes that must be used are of type hard "rilsan" for drainage, while, for the supply, a 1/2" fit is predisposed.

3 - OPERATION

3.1 Getting started

Before operating the humidifier, verify that:

1. All connections, both electrical and hydraulic, are made according to the instructions contained in this manual;
2. The humidifier is free and clean;
3. The water supply tap is open.

3.2 First start

- Check the correct air flow direction (Fig. 3.1);
- Check the spinning direction of the centrifuge (Fig. 3.1);
- Make sure all wires are regularly placed and not caught or pulled by any object;
- Ensure that the water connections are correct;
- Open the water supply tap and make sure that there are no leaks along the load circuit;

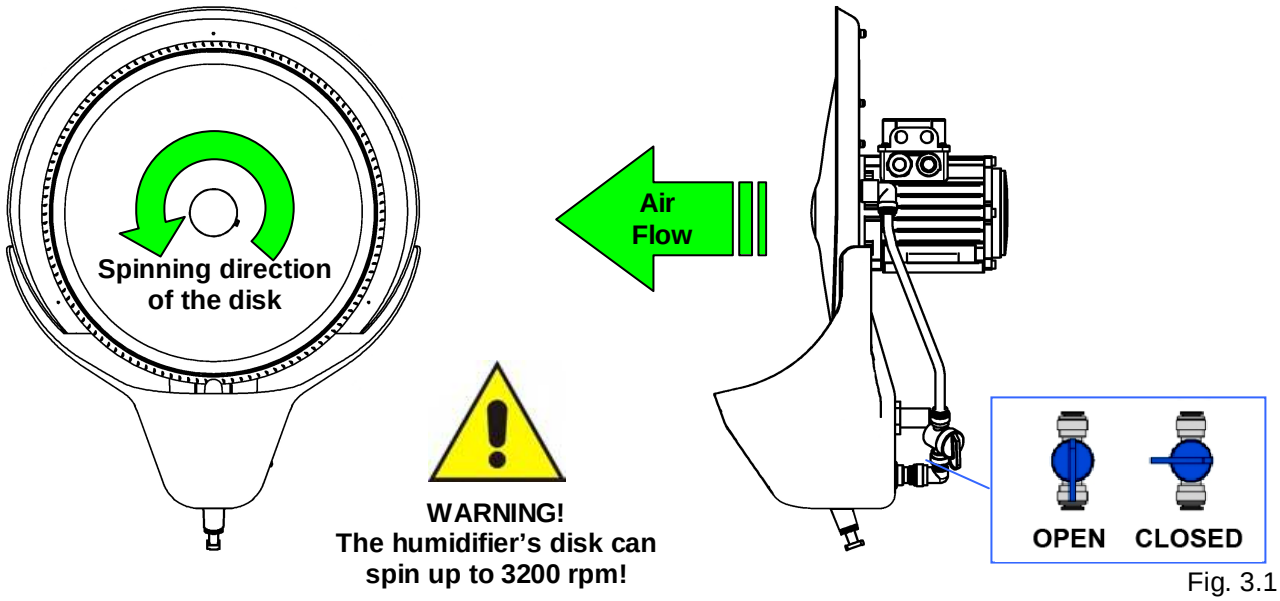


Fig. 3.1

Adjust the water flow with the proper flow regulator in order to obtain a nebulization without drag of droplets by the spinning disk.
Warning: an excessive quantity of water increase the size of the droplets

The pump must not operate without water.
The temperature of the liquid used must not exceed 35°C.

3.3 Starting

The machine starts automatically when the electrical power is switched on
The pump circulates the water bringing it to the rotating disk that atomize the water through the use of small "teeth".

3.4 Setting

It is possible to vary the amount of atomized water by adjusting the valve that regulates the spinning disk's water supply (Fig. 3.1).
The machine can nebulize from 15 to 55 lt/h (the quantity of atomized water affects the quality of the fog).

3.5 Water waste

The machine comes with a cap placed on the bottom of the storage tank. It is possible to empty the tank by removing the cap.
To do this operation, act on the stopping ring pressing it slightly (the operation can be facilitated by using a no. 10 spanner) and remove the cap.

4 - MAINTENANCE

Before undertaking any maintenance,
disconnect the device from the electricity and water supply!

Periodically check that the amount of water reaching the slinger is correct, if necessary adjust the flow regulator. Keep clean the disks, the tank and the internal components, and prevent the accumulation of dirt on the lid.

4.1 Cleaning the disk

Keep the disk clean to avoid the formation of calcareous deposits or accumulation of dirt, which could cause an increase in vibration or coarse nebulization.
To clean the rotating disk, simply use a soft damp cloth and a non-toxic and solvent free detergent, rubbing and being careful to avoid excessive pressure.
Do not use solvents.
The fixed disk should be cleaned with a small brush with stiff bristles, rubbing the teeth, being careful not to damage them.
Any eventual limescale can be removed with muriatic acid diluted with water.

4.2 Cleaning the tank

Periodically clean the water tank.
To access it, unscrew the two screws on the lid and pull gently, grasping the appropriate grip.
To ease the cleaning, it is possible to remove the float's sphere and the pump.
To remove the sphere it is necessary to unscrew the plastic arm of the float (Fig. 4.1).
To remove the pump it is necessary to operate while holding with a no. 13 spanner the stop ring in which the pump is placed and pull gently the pump up to complete removal.
Once all these operations have been completed, it is possible to clean the interior of the tank with a cloth or a sponge, rubbing gently on the walls. **Do not use solvents**.
It is necessary to periodically check the functioning and the cleanliness of the pump and the float.
Each 2-3 months clean the internal parts of the pump with warm water.

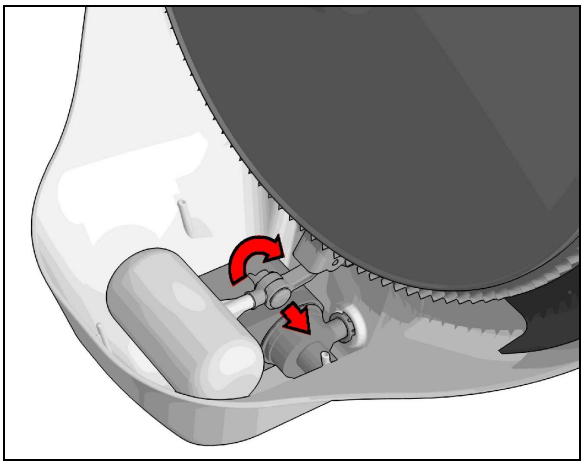


Fig. 4.1

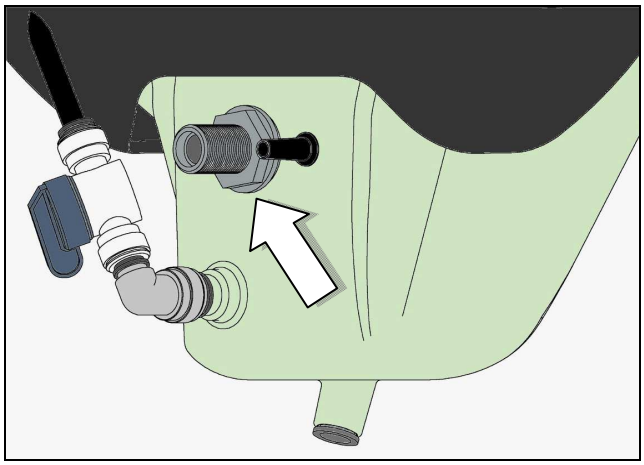


Fig.4.3

4.3 Changing the pump

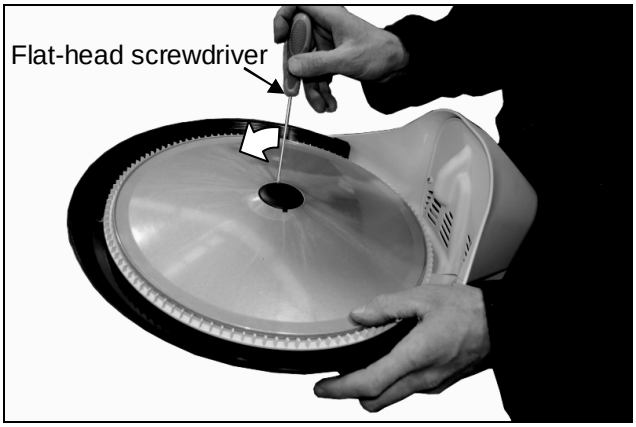
Remove the two cover screws using a cross or "Phillips" screwdriver Remove the lid by pulling it, grabbing the appropriate grip between thumb and forefinger. Unscrew the plastic arm of the float as shown in Fig. 4.1. Operate holding the stop ring with a no. 13 spanner in which the pump is placed and pull the pump gently up to complete removal. Remove the nylon pawl from the entrance of the connection to the removed pump and snap it onto the new pump. Repeat the sequence backward, being careful to reposition the float so that the water level inside the tank covers the pump completely.

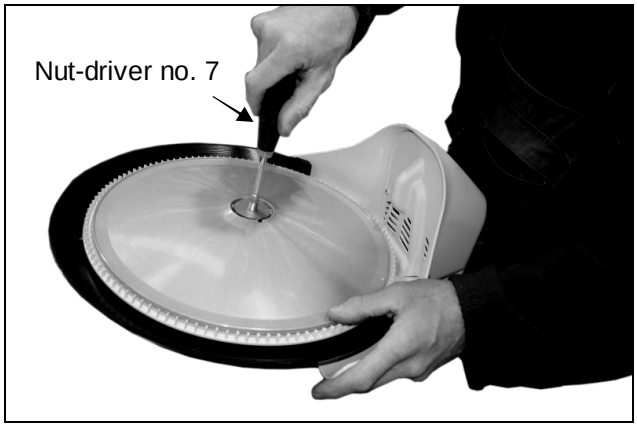
4.4 Changing the float

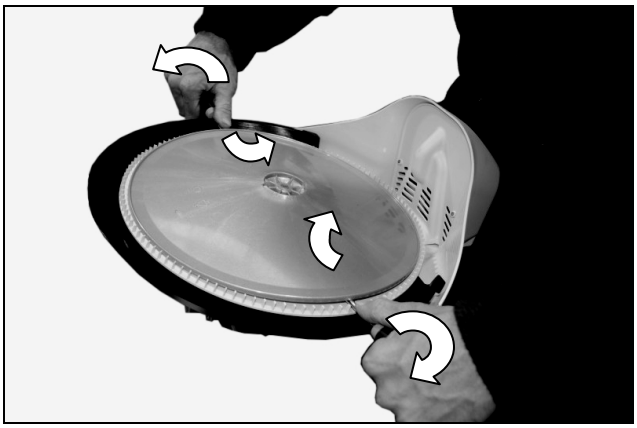
Disconnect the water supply.
Remove the two screws from the lid by using a crosshead or “Phillips” screwdriver. Remove the cover by pulling it, grabbing the grip between the thumb and the forefinger.
Unscrew the plastic ring nut indicated in Fig. 4.3 and, consequently, remove the body of the float.
Place the new float and repeat the sequence in the opposite direction, so that the water level inside the tank covers the pump completely.

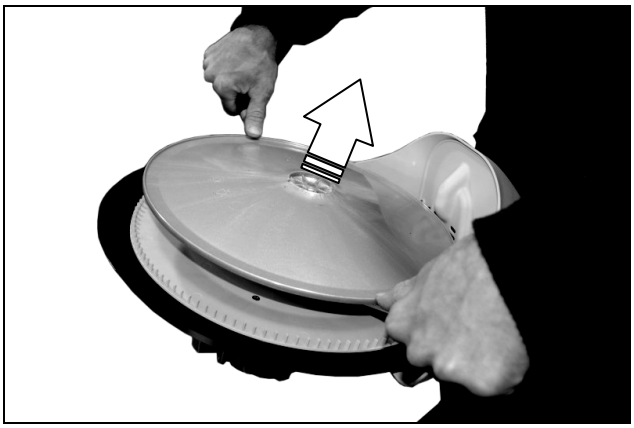
4.5 Replacing the spinning disk

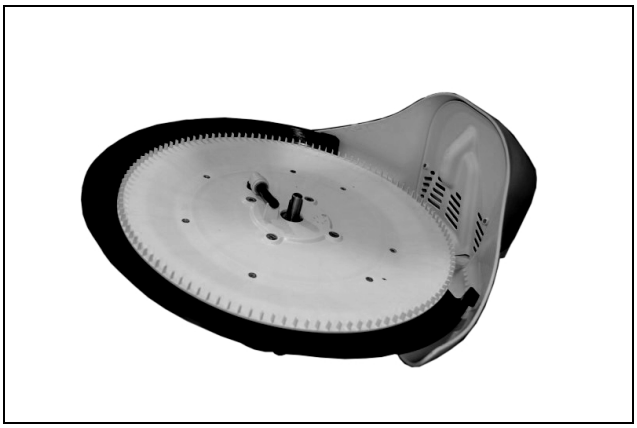
Use a flat-head screwdriver to remove the cap covering the spinning disk by levering the hollow. With a Nut-driver no. 7 remove the M4 screw.
Using a pair of flat-head 150mm screwdrivers, pry between the spinning disk and the fixed disk to remove the disk from the driveshaft.
Grease the driveshaft and insert the new disk, checking the alignment of the keys and pressing the center without blinking or exerting excessive force. Replace the washer, the M4 screw and the cap.
Verify that the distance between the spinning disk and the fixed disk is around 4mm, otherwise add or remove spacers from the driveshaft (pos. 5 and 6 spare parts chart - Par. 5.6).











4.6 Positioning the nozzle

After removing the spinning disk (par. 4.5), verify that the nozzle is positioned as shown in the following pictures.
If the nozzle is not properly positioned, rotate the nozzle until the optimal position is reached.
Always make sure that the nozzle rests properly in its holder.

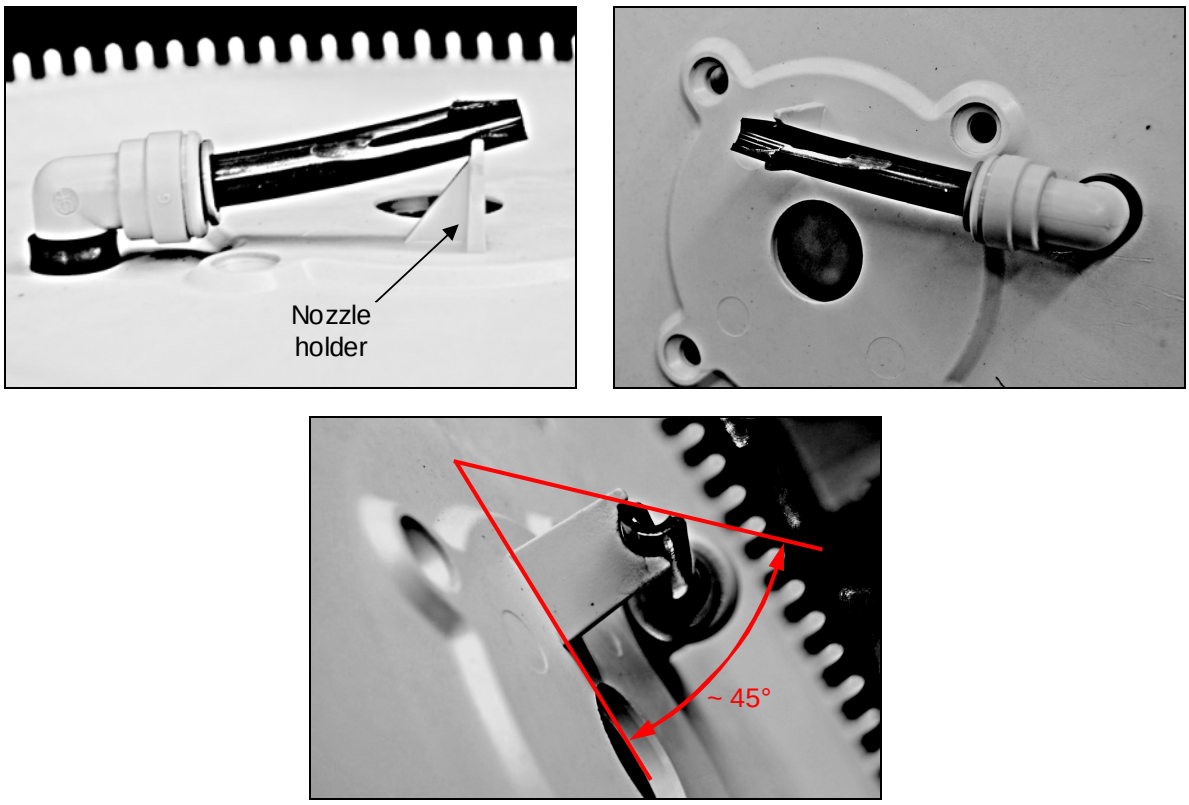


Fig. 4.5 Nozzle positioning

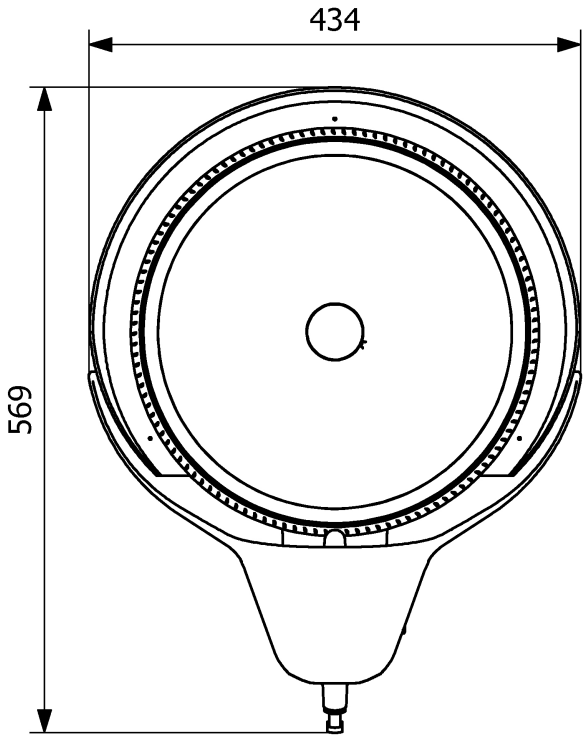
4.7 Accessories

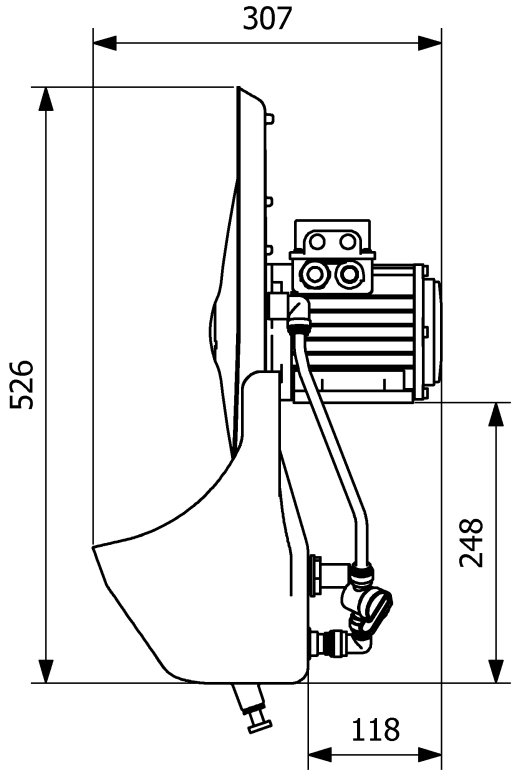
A full range of accessories matching your UCP is available, including electronic humidity controls, thermostats, timing systems for the drainage of the tank (anti-legionella), electric wiring accessories, hydraulic accessories, air conveying and inhalation channeling pipes.
Request the accessories catalog from your dealer for further details.

5 – TECHNICAL SPECIFICATIONS

5.1 Technical data

General Data					
		UCP-1	**UCP-3**	**UCP-1**	**UCP-3**
Atomization capacity	lt/h	15 - 55	15 - 55	15 - 55	15 - 55
Electrical supply		1 phase	3 phases + neutral	1 phase	3 phases + Neutral
Degree of protection IP		56	56	56	56
Weight	kg	7,5	7,5	7,5	7,5
Electrical characteristics					
Humidifier's motor					
Power	W	120	120	120	140
Voltage	V	230	400	230	400
Current	A	1,12	0,4	0,94	0,4
Frequency	Hz	50	50	60	60
Pump's motor					
Power	W	6	6	6	6
Voltage	V	230	230	230	230
Frequency	Hz	50	50	60	60

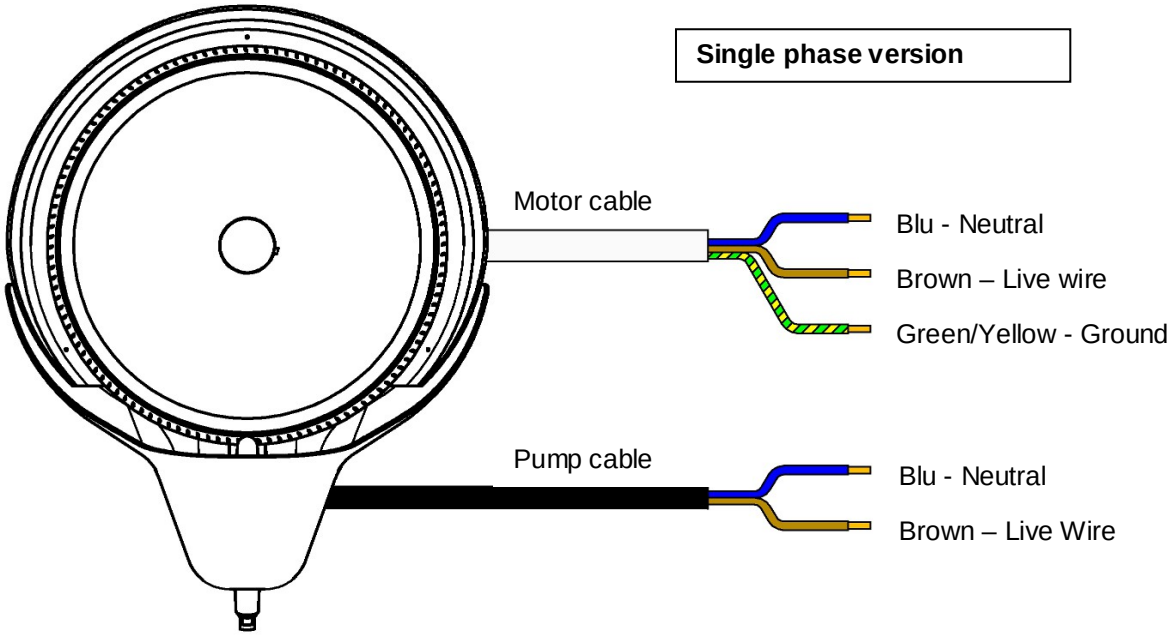


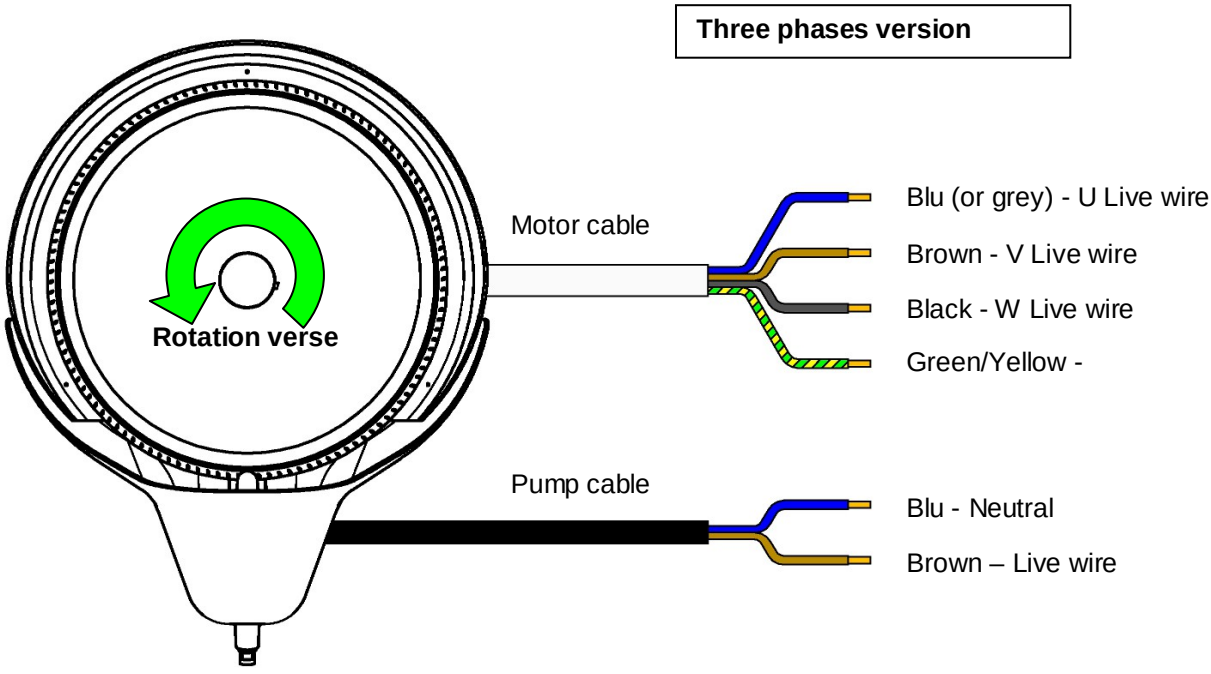


5.2 Wiring

All the wires used must be suitable to carry the current intensity (A) of the motor (par. 5.1).
Terminal's screws must be accurately tightened.
Make sure that the electricity supply characteristics are exactly as shown in the table (par. 5.1).
Install a differential magnetic switch upstream of the device.
Protect with a suitable motor overload protection (par 5.1).

Make sure all connections are stuck on the box, the box cover is secured and that the screws are tightened to ensure the necessary level of protection.

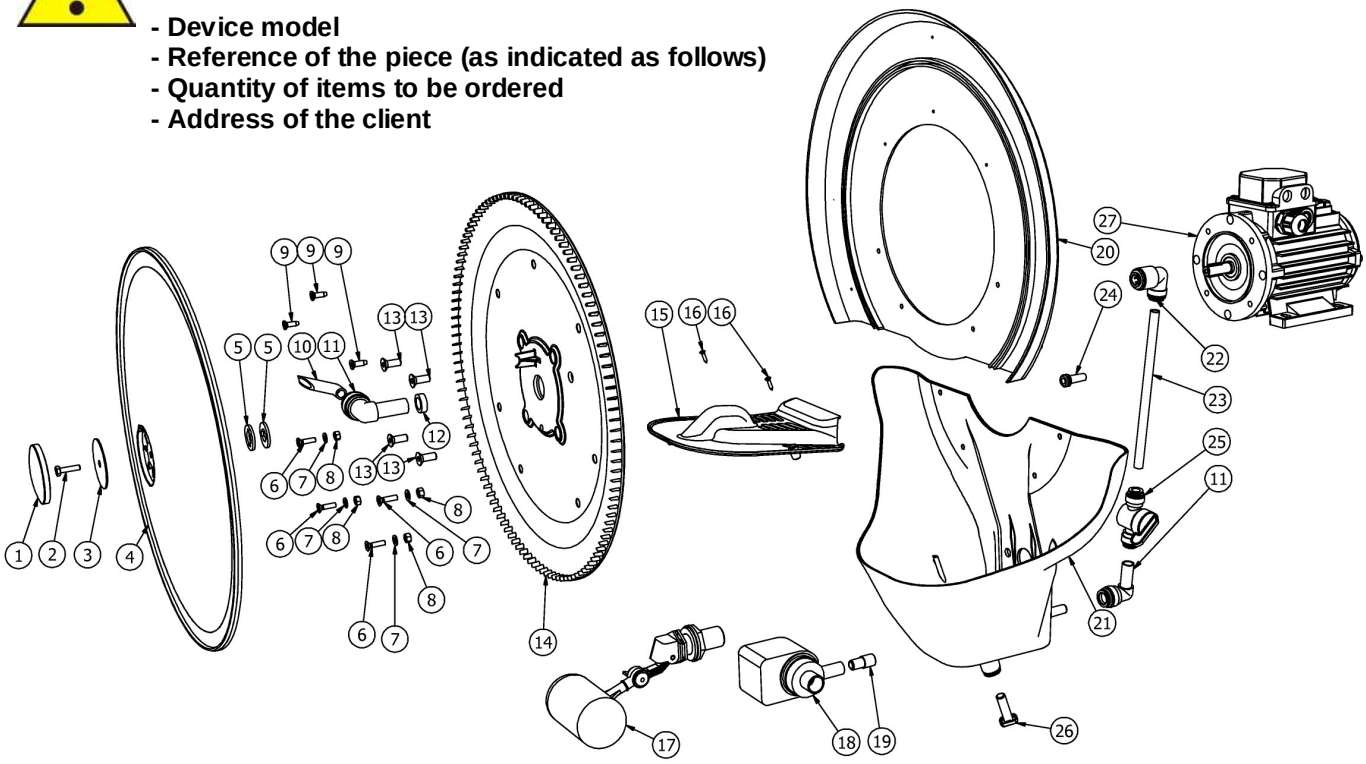




5.3 Spare parts

It is highly recommended to use only original spare parts.
Orders must be made by specifying what follows:

- Device model
- Reference of the piece (as indicated as follows)
- Quantity of items to be ordered
- Address of the client



Pos.	Numero parte	Qtà	Descrizione
1	F.1800003	1	SPINNING DISK CAP
2	F.6001001	1	EXAGONAL HEAD INOX SCREW M4x16
3	F.1801006	1	SPINNING DISK FIXING WASHER
4	F.1801002	1	SPINNING DISK
5	F.1801009 F.1801010	2	SPINNING DISK SPACER 1mm SPINNING DISK SPACER 2mm
6	F.6001501	4	INOX SCREW M4x16
7	F.6003000	4	INOX WASHER 4,4x9
8	F.6002500	4	EXAGONAL INOX NUT M4
9	F.6002000	3	INOX SCREW 4,2x13
10	F.1806001	1	NOZZLE
11	F.8202001	2	90°STEM ELBOW FITTING
12	F.7303003	1	SPACER
13	F.6001502	4	INOX SCREW 6x16
14	F.1801012	1	FIXED DISK
15	F.1800007	1	TANK CAP
16	F.6002002	2	INOX SCREW 2,9x19
17	F.8202510	1	FILL VALVE WITH BUSH
18	F.7308006 F.7308007	1	PUMP 230Vac 50Hz PUMP 230Vac 60Hz
19	F.1800008	1	PUMP SPACER
20	F.1802001	1	COMPLETE SHELTER
21	F.1806005	1	TANK
22	F.8202009	1	ELBOW FITTING
23	F.1806004	1	TUBE
24	F.7303005	1	CABLE COVER
25	F.8202000	1	BALL VALVE
26	F.8202010	1	3/8” PLUG
27	F.5000100 F.5000101 F.5001100	1	MOTOR 230Vac 50Hz 120W MOTOR 230Vac 60Hz 120W MOTOR 400Vac 50/60Hz 120W

6 - PROBLEMS AND SOLUTIONS

**Before undertaking any maintenance,
disconnect the device from the electricity and water supply!**

PROBLEM	CAUSE	SOLUTION
The device does not start.	The power supply is not plugged.	Verify the electrical connection, or the functioning of the mains itself.
The spinning disk does not turn but the water is re-circulated by the pump.	The motor power supply is disconnected.	Check the power supply line of the motor.
	The motor is broken.	Contact qualified and authorized personnel to replace the motor.
The spinning disk turns but the water is not atomized.	The pump's water supply is unplugged.	Check the water supply line of the pump.
	The circuit of water supply is disconnected.	Check the water supply pipe and the atomizing control valve.
	The pump is clogged.	Clean the tank and accurately clean the pump.
	The pump is full of air.	Disconnect the 3/8" tube from the valve, allowing the vent of the hydraulic circuit. Accurately clean the pump.
	The pump is broken.	Contact qualified and authorized personnel to replace the pump.
	The float does not fill the tank.	Test the functioning of the float, in case of damage or failure contact qualified and authorized personnel to replace it. .
The atomization is coarse.	The fixed disk is dirty.	Clean the fixed disk.
	The spinning disk is too distant from the fixed disk.	Verify that the distance between the fixed disk and the spinning disk is around 4mm; add or remove spacers to adjust the distance.
	The nozzle is badly positioned.	Verify the position of the nozzle.
The machine vibrates.	The spinning disk is broken.	Contact qualified and authorized personnel to replace the spinning disk.
	The motor is broken.	Contact qualified and authorized personnel to replace the motor.

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